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ABSTRACT

In 1969, the Medical School of the University of Puerto Rico (UPR) received a grant from the National Center for Health Services Research and Development (Public Health Service, HEW) to plan and conduct--as a demonstration project--a special retraining program for physicians who had failed to approve the licensure examinations of the Puerto Rico Board of Medical Examiners. These physicians, graduates of foreign medical schools, were identified and subsequently given an opportunity to enroll in a six-month "Curso de Perfeccionamiento" which included supervised clinical practice along with lectures and seminars in the basic and clinical sciences. An important aspect of the Curso program from the beginning was evaluation. Aside from the more usual sorts of program and impact assessment, it was felt highly desirable to determine in some way the quality of practice engaged in after licensure. If this were done, then not only could the presumed long-range effects of the Curso be investigated, but also the general "quality of medical care" in Puerto Rico could eventually be at least partially assessed. This document reports on the initial steps taken in that direction, namely the establishment of meaningful performance criteria which would define an acceptable level of medical care provided in Puerto Rico and elsewhere. (Author/DEP)

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Initial Development of Criteria for Assessing Quality of Medical Care

A Report to the Staff of the
Curso de Perfeccionamiento
University of Puerto Rico
Medical School

Roderick A. Ironside
Project Director

October 1973

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY

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DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

October 1973

Preface

The development work reported here was the first in a planned series of steps aimed at evaluating--in performance terms--certain outcomes of the University of Puerto Rico's special Curso de Perfeccionamiento (an offering provided for unlicensed graduates of foreign medical schools). The intent of the projected evaluation scheme was to assess the Curso's effects on the "quality of medical care and on community health" as engaged in by those Curso graduates who later approved the state licensure examinations and took on various assignments around the Island.

As it turned out, mounting such an evaluation plan proved costly beyond the means of the existing grant; moreover, it also became clear that the Curso graduates were entering a much wider range of medical practice (and study) opportunities than had originally been anticipated. It was not possible to continue this particular line of evaluation work (although several other assessments of the Curso were undertaken and have been reported separately).

The staff of the Curso and other members of the medical community saw value, however, in the initial step of defining adequate care in measurable terms. It was felt that the specification of such criteria--even if not refined to the ultimate form needed in an evaluation of performance--would have a number of potential applications in Puerto Rico. These are discussed in the body of the report.

The project was initiated in the Fall of 1970, and the work of revision continued for some time after that. Three primary sorts of "guidance" were employed during this period: (a) a review of the literature on definition and measurement of quality medical care (available as ETS Project Report 73-23); (b) the experience and expertise of a number of medical personnel in Puerto Rico who prepared the initial topics and criteria, and some of whom later reviewed and refined the project products; and (c) the assistance provided by ETS professional staff in matters related to criterion-specification and measurement requirements. The ETS "function" was to facilitate the operational statement of criteria, to aid in the definition of quality care dimensions, to record the committee deliberations, and to prepare the guidelines in written form both before and after committee review. The major work, of course, was

medical in nature, and it was the Puerto Rican medical personnel involved who directed the conference and outlined its scope, who determined the areas, topics, and specifications needed, and who ultimately judged the adequacy of the criteria thus formulated.

As noted by one of the participants, the process involved was probably as valuable as the product. For this reason, several versions of the criteria are included in this report--to indicate something of the historical development involved and the changing assumptions that underlay the revisions made. In addition, of course, the very fact of such a conference and the dedication of its members in cooperatively attacking the criterion problem is a notable aspect of the process. Finally, inclusion of the several successive versions may enhance the potential applications of the quality-care criteria.

ACKNOWLEDGEMENTS

The planning for the project reported here, the conduct of the conference, the review and revision of criteria outlines, and the preparation of final materials have all required the participation of a large number of people who performed a variety of tasks. Particular appreciation is expressed to the following, in addition to the members of the Competency Committee listed in Appendix A:

Mr. Ennio Belen, director of the ETS office in San Juan, coordinator,
Miss Ida Brugnetti, then the NCHSRD project officer in charge of the grant,
J. A. Davis, Ph.D, then director of the Durham (N.C.) ETS office, measurement consultant,
Ariel Diaz, MD, of the Curso de Perfeccionamiento staff, coordinator,
William Kastrinos, Ph.D, test development specialist in the Princeton (N.J.) ETS office,
Carl B. Lyle, MD, of the Charlotte (N.C.) medical clinic, medical consultant,
Mrs. Barbara Manning of the Durham and Chapel Hill (N.C.) ETS offices, secretary,
Miss Adele Richardson of the Durham ETS office, research assistant.

INTRODUCTION AND PURPOSE

In 1969, the Medical School of the University of Puerto Rico (UPR) received a grant from the National Center for Health Services Research and Development (Public Health Service, HEW) to plan and conduct--as a demonstration project--a special retraining program for physicians who had failed to approve the licensure examinations of the Puerto Rico Board of Medical Examiners. These physicians, graduates of foreign medical schools, were identified and subsequently given an opportunity to enroll in a six-month "Curso de Perfeccionamiento" which included supervised clinical practice along with lectures and seminars in the basic and clinical sciences. At this time, the UPR medical staff is in the midst of the fourth Curso, and thus a total of approximately 190 men and women physicians have undertaken this special program.

A primary goal was to increase the manpower pool available for service in the Department of Health, particularly in the local Health Centers in outlying regions. A companion purpose was to improve the quality of medical care provided and to increase the attention given to community and preventive medicine.

An important aspect of the Curso program from the beginning was evaluation. Aside from the more usual sorts of program and impact assessment, it was felt highly desirable to determine in some way the quality of practice engaged in after licensure. If this were done, then not only could the presumed long-range effects of the Curso be investigated, but also the general "quality of medical care" in Puerto Rico could eventually be at least partially assessed.

This document reports on the initial steps taken in that direction, namely the establishment of meaningful performance criteria which would define an acceptable level of medical care provided. It was recognized that any attempt to assess the quality of professional performance--or to describe detailed parameters of such performance--is a sensitive matter. But it was also recognized that an equally sensitive matter was the assurance that medical care of a high quality be available in Puerto Rico (and elsewhere).

The project reported here was conceived of as essentially a planning step, preceding any actual development or administration of measures in the field. The purposes outlined below also indicate certain limitations of this effort:

1. to develop an operational definition of what constitutes good on-the-job medical practice by the individual physician
2. to structure that definition multi-dimensionally; that is, to posit several independent but related areas of activity rather than a unidimensional trait of "quality"
3. to identify, within those dimensions, the particular attributes (knowledges, skills, or characteristics) deemed necessary to a minimally acceptable practice of medicine
4. to relate those dimensions to the practice of physicians in the local Health Centers of Puerto Rico (whether or not the directors of such centers)
5. to relate those dimensions and specific criteria initially to a particular population (the licensed graduates of the special Curso)
6. to treat the total physician role, and thus to delineate aspects of "medical care" within a system as opposed to "medical practice" (which might be construed only as clinical in nature)
7. to establish the criterion guidelines necessary for the consideration of appropriate measurement procedures

PROCEDURE

The UPR project staff selected the vital "Competency Committee," its general chairman, and ultimately the three subgroups which would deal with the criterion question. The 25 members represented the Regional Medical Program, the Department of Health, the Board of Medical Examiners, the School of Public Health, and the Medical School faculty (the largest proportion belonging to the latter, but spread over a wide spectrum of departments). Appendix A names all the active participants, including project staff members and ETS professional personnel involved (which included a stateside MD consultant).

Of special importance was the creation of the "core committee," or executive group, consisting of 9 members who became central to both the development process and the review/refinement function.

Several principal members of the total project met in advance to outline the agenda and decide on effective group and subgroup strategies. At that time it was decided to approach the LHC physician's role from three points of view: ambulatory practice, LHC hospital, and community medicine. Other advance preparations included (a) the summary of the relevant research, (b) the mailing of a few selected papers to each participant, (c) the gathering of available descriptive data on the clinics, patient loads, disease frequencies, role descriptions, equipment, etc., of representative Local Health Centers, (d) delineations of plans and expectations communicated to the Committee members, and (e) duplication of sample materials such as an outline of an already-published checklist for management of a case of myocardial infarction.

The three-day conference itself was held in December 1970, at a site away from the daily busyness of participants. Dr. Luis Miranda, the conference chairman, opened the session with an overview of the Curso and the immediate purposes. This was followed by brief presentations by three ETS consultants: Dr. J. A. Davis who spoke on evaluation (see Appendix B for a summary of his presentation); Dr. William Kastrinos on the development of performance specifications; and Dr. Roderick Ironside on the literature review, dimensions, and discrete criteria. Dr. Miranda, assisted by Dr. Egidio Colon-Rivera, set the stage for action by giving the participants their specific charge and outlining the anticipated schedule.

Each of the three subgroups (see Appendix A) first determined which aspects of their given areas they would include and which omit, under guidance of the subgroup chairman. That formidable task accomplished, they then concentrated on specific criteria within aspects for the remainder of the conference. At times the subgroups broke into smaller committees of 2 or 3, and then reconvened to reach consensus. It goes without saying that the discussions were intensive, extensive, and comprehensive.

At the end of day one, each subgroup reported its decisions on what topics would be covered, and on day three submitted written reports of the detailed outcomes (in terms of both topics and criteria) to all participants for discussion.

And discussion there was! The final session resulted in a number of agreed-upon changes in the output of each subgroup, reinforcing the value of giving the total conference time and opportunity to consider and revise--on the spot. It should be added that on a number of points consensus was reached, but not unanimous approval.

IMMEDIATE OUTCOMES

The "final reports" of the conference comprised the output of each subgroup separately: hospital, ambulatory, and community medicine. Because they were somewhat different in nature from one another, and contained certain notable segments, they are summarized here--even though a large portion of these immediate outcomes were soon revised considerably into a single framework.

A. Hospital Group

(1.) Developed record forms for use in studying and evaluating records (as a check on quality care) on several presenting conditions (not diseases) which would presumably warrant hospital admission. Simple indicators of minimum care were chosen, and generally followed this outline:

a) initial workup and criteria for admission
b) diagnosis and specific plan of care
c) treatment and follow-up
d) disposition

The actual record forms are extensive and will be found in a later section. Criteria for physician behavior were presented in terms of the separate disease-oriented activities listed for each presenting complaint.

(2.) The 4-part outline was further broken into a general outline applicable to virtually any disease or disorder, and containing 17 sequential elements. The idea was that for any given complaint, the specific necessary features would be entered into this outline, recorded, and judged as essential or not essential.

When it was applied to complaints, however, it appeared necessary to have different kinds of judgemental systems (as will be seen in the actual record forms developed).

(3.) Listed four requirements for the development of such record forms, in order to do the job: The forms must cover and include:

a) evidence that the clinical problem has been identified
b) patient risks have been identified
c) criteria for good in-patient care have been met
d) if patient referred, evaluation of referral form

(4.) Considered the question of the "human and environment factors" which affect physician performance, resulting in a list of 10 such factors; and adopted sets of criteria and requirements having to do with general standards for Health Center facilities, conditions, and personnel.

B. Ambulatory Group

(1.) Outlined in great detail the total role of the physician in a Health Center, as well as the working situation, policy and other elements. Much of this was topical (regarding the setting) and set no standards or requirements; as to physician behaviors in the delivery of care, however, the criteria were presented in terms of specific questions--which carried an implicit standard of "yes" answers.

(2.) The topical outline was as follows:

I. Concerning the General Setting

A. General health policy

resources, supervision, evaluation

B. Local health policy

statistical reports, services offered, clinics

C. Facilities and resources

physical set-up, equipment, services, medical manpower, other personnel

II. Concerning the Health Process

A. Medical records and referral

B. Health center statistical records

III. Communications

A. Physician with health team

active participation, consultation, personal relationships

B. Physician with paramedics

supervision and feedback (give questionnaires to paramedic personnel)

C. Physician with patients (questionnaire to patients)

1. Personal relationship (e.g., "Does physician know your name?")
2. Professional relationship (relating to history, physical, diagnosis, treatment, prevention, rehabilitation, advice) (e.g., "Did he take a history beyond your chief complaint?" "Were you told whether disease was contagious?")

D. Physician with base hospital

administrative, referrals (e.g., "Does physician include short history and pertinent findings?" "Did physician receive feedback from hospital?")

E. Physician with local community.

(e.g., "Is he willing or available to give medical lectures or demonstrations to community groups?")

(3.) The group pointedly noted that its output constituted guidelines for the selection of criteria, rather than a set of formulated criteria. Thus, very few actual standards were stated and certain

questions were not included (such as admission or unnecessary treatment).

(4.) As noted in III-C-2 above, it was suggested that the patient in effect "evaluate" the physician with respect to a wide range of physician behaviors and communications.

(5.) It was proposed that the outside evaluator, in studying records, look for the following; these might be done in reviewing all records, or in a spot-check, or for records on a given condition in the LHC.

a) pertinence and relevance of history, physical, as related to chief complaint

b) agreement of diagnosis, lab, treatment, as related to chemical data

c) evidence of proper disposition (ambulatory care, hospital, or referral)

d) quality of referral notes

e) frequency of follow-up, as related to illness, severity, treatment

f) interest in personal follow-up

C. Community Medicine Group

(1.) Outlined in considerable detail the total role of the LHC physician re community medicine, but within a necessary context of the system and organization of overall health care. The original catalog of 11 topical areas was reduced to 8.

(2.) While the committee discussed the importance of the LHC facility and resources, and of the constraints of the health care system, its final report was presented in terms of the physician and his particular responsibilities. Each topic was amplified by criterion statements (is aware of, does, examines, keeps, uses, etc.)

which in sum gave a very clear picture of the physician's role in community health. Thus physician behaviors were dealt with directly, in behavioral terms.

(3.) The topical outline, with examples, was:

I. Legislation affecting medical practice

A. He complies with existing laws and regulations (e.g., practice of abortion, reporting of communicable diseases and cancer).

II. Prevention of communicable and noncommunicable diseases

A. He has a regular immunization program...

B. He takes necessary measures to protect...

C. He actively participates in all groups that sponsor early-detection programs...

III. Organization and utilization of health services

A. Refers patients to other medical and paramedical personnel at all levels, and to other community agencies:

B. He is aware of the extent of use...

IV. Group work and relations

A. He works effectively with other members of the health team (e.g., is a source of ideas, promotes and accepts change)

V. Relation between environment and health

A. Keeps clean and orderly environment at work including water and toilet facilities

B. Is aware of physical, social, and emotional factors that affect the health of the community, and takes measures to correct them where feasible (e.g., air and water pollution, family setting)

VI. Health economics

A. Takes cost into consideration in relation to family economic situation

B. Is aware of benefits patients entitled to (e.g., Medicare, VA, Social Security)

VII. Population dynamics

A. Organizes and plans health services...in relation to population changes

B. Is aware of overpopulation problems and takes measures to establish family planning...

VIII. Keeping up with community needs and professional preparation

A. Keeps informed of community needs through surveys, meeting with leaders...

B. Keeps informed in professional field (e.g., meetings, reading, reviewing)

OVERALL TOPICS AND CRITERIA

The products of the conference were next compiled into a single document which combined the concerns and the specifics of the hospital, ambulatory, and community subgroups. The sources used in this compilation included: (a) the "final" written subgroup reports, (b) notes taken during the deliberations, (c) a tape of the terminal conference session where reports were discussed and somewhat revised, (d) the Curso staff recommendations, and (e) a review by the ETS medical consultant.

Paramount concern in this document was with the dimensions of medical care. The total range of sources was used in abstracting the common dimensions which appeared in the three subgroup reports. After these themes were identified, the separate elements of behavior or knowledge or attitude or environment were subsumed, resulting in the elimination of considerable overlap and repetition (for example, in the domain of referrals). Another

priority was to state the available standards as much as possible in performance terms; however, little license was exercised and the result is "uneven"--in the sense that some topics are detailed into behavioral statements while others merely suggest an area of concern. The number of specific and precise indicators is small. And a third major purpose was to integrate the work of the 3 subgroups to reflect the real-world situation where the individual physician would be working in hospital, out-patient department, and community health clinics.

The reorganized formulation appears on the following pages under the title "Compilation of All Conference Outcomes on Performance Criteria." This is divided into four sections: I, Dimensions of Medical Care, of which 9 are presented; II, Related Dimensions, (two), concerned with non-medical topics and criteria; III, Environmental Factors Affecting Quality of Judgement and Performance; and IV, Record Forms for Evaluation of Physician Handling of Presenting Complaints. The latter were examples only, chosen at the Conference out of a large number of possibilities.

The physician who could deal satisfactorily with what is outlined here might indeed be rare--especially with reference to some rural Health Center facilities and resources. The picture that emerges is a somewhat ideal one; moreover it clearly describes an LHC director in many of its particulars. At the time of the Conference that was purposeful, since it was anticipated that some Curso physicians would be assigned to small LHC's where they might have or share the director's responsibilities.

As may be apparent from the material itself, the Conference members considered measurement implications in their work. Study of records was emphasized, although observation, interviews, ratings, and patient feedback were also considered.

A philosophical difference that does not show up in the material--but which was the subject of some disagreement in the Conference--relates to the validity of measurement techniques. One "school of thought" held that the

discussion continued on page 37

Compilation of All Conference Outcomes on Performance Criteria

Section I: Dimensions of Medical Care

A. Community and Family Protection

1. - Keeps Center and office facilities sanitary (including water and toilet facilities).

2. (a) Keeps informed of environmental factors that affect community health, and of community health needs.

(b) Takes measures to correct these factors where feasible:
- (1) sanitary facilities and conditions
- (2) air and water pollution
- (3) family settings and stresses
- (4) cultural and religious patterns
- (5) nutrition needs
- (6) community economic situation
- (7) overpopulation problems
  - counsels families
  - conducts family planning program
  - refers to existing agencies
- (8) communicable disease outbreak (e.g., hepatitis, influenza)
  - traces source
  - immunizes
  - keeps needed medicines on hand
  - follows patients and contacts
- (9) under- or over-utilization of local health services

3. - Conducts regular immunization programs for smallpox, DTP, polio, measles.

4. (a) Participates in all groups, committees, societies, clubs, that work for early detection of heart disease, glaucoma, TB, VD, cancer, diabetes.

(b) Coordinates his efforts with these other groups.

(c) Initiates preventive clinics for these conditions;
- uses outside personnel
- works to insure that all who should attend do attend
- keeps clinic attendance records
- utilizes paramedical personnel in clinic operations

(d) Encourages population to have regular complete PE's.

(e) Initiates and works in prenatal and well-baby clinics.

(f) Performs complete PE on susceptible patients or those who have symptoms.

5. - Conducts educational programs and efforts for individuals, for the community, and for other health care personnel (before and after problems erupt).
- communicable diseases
- sanitation and pollution
- major non-communicable diseases
- family planning

6. - Conducts routine PE's on school children in the schools.

B. Participation and Communication Within the Total Health System

1. - Works effectively with all members of the local health team
   - (a) attends meetings and conferences (on time)--of several sorts
   - (b) participates actively in these meetings
   - (c) has good interrelationships with colleagues
   - (d) utilizes other physicians for consultations
   - (e) focuses attention on local problems and questions
   - (f) is a source of ideas, proposals, solutions
   - (g) promotes and accepts change
   - (h) takes initiative re local problems
   - (i) organizes and utilizes groups and individuals (including non-medical persons) in making certain decisions
   - (j) supervises, assists and gives feedback to paramedical personnel
   - (k) understands medical roles, and assigns and calls on people accordingly (clinics, E.R., hospital, education)
   - (l) knows local policies concerning personnel, pharmacy, referrals, consultation

2. - Works effectively with the base hospital
   - (a) knows the specialists at base hospital
   - (b) knows and uses the correct referral channels
   - (c) knows how referrals are handled at base hospital
   - (d) knows how to call on specialists for either clinic work or consultation

3. (a) Makes appropriate and accurate use of referral systems
   - (1) refers at local level where needed
     - from E.R. to OPD
     - to local private hospital
     - to appropriate paramedicals
   - (2) refers to base (regional) hospital from E.R. or OPD
     - refers directly by name
     - prepares referral himself (not left to a paramedical)
   - (3) prepares referrals which:
     - are legible
     - contain history and physical findings
     - include reasons for referral
     - include his diagnostic impressions
     - show that he attempted to diagnose
     - include any therapy already given
   - (4) takes patient risks into account
   - (5) asks for specific feedback from hospital
     - arrival of patient
     - medical report
     - seen by right specialist
   - (6) makes only necessary referrals
   - (7) refers to appropriate specialist or office

   (b) Keeps adequate records of all referrals and feedback

B. Participation and Communication, continued

4. - Is aware of regulations and recommendations re:
   - patient-doctor ratios
   - permissible roles of paramedicals
   - priorities in the use of resources
   - reporting of local data to Region and Department

5. - Maintains all necessary local records.
   (a) keeps them available
   (b) keeps them organized
   (c) keeps them legible
   (d) makes them complete and accurate
   (e) records use of paramedical personnel
   (f) records vital statistics
   (g) records clinic attendance
   (h) uses standard forms
   (i) keeps clinical records on patients
      (1) relates history and PE to chief complaint
      (2) diagnosis, lab results, and therapy agree in terms of chemical data
      (3) disposition is made clear
      (4) referral notes are appropriate, complete
      (5) follow-ups are done (depending on severity, therapy, diagnosed illness)
   (j) records local statistics
      (1) # patients seen per clinic
      (2) types of clinics offered
      (3) surgery performed and outcomes
      (4) % of patients in E.R. seen by physician on night call
      (5) diagnostic procedures employed
      (6) medications used for particular illnesses
      (7) % patients who already have a medical record

C: Utilization of Manpower Resources in the H.C. and in the Community

1. - Provides in-service training for paraprofessionals in order to increase health services available.
2. - Maintains H.C. morale and sees that employees are punctual, responsible, and stay on job.
3. - Gives responsibility to paramedicals as appropriate.
4. - Consults with and makes use of other agencies in community as needed
   - physicians
   - private clinics or hospitals
   - volunteer groups (aides, education, etc.)
   - social agencies
   - dentist
5. - Attempts to recruit and retain adequate staff for H.C.
6. - Conducts or participates in (weekly) meetings for sake of communication, morale, knowledge of needs, and best assignments for H.C. staff.

D. Utilization of Facilities, Materials, Supplies at the H.C. and in the Community

1. - Makes proper use of
   - laboratory facilities and equipment
   - EKG machinery
   - X-ray machinery
   - equipment for PE
   - operating room

2. - Makes sure paraprofessionals and nurses can properly use the above.

3. - Uses medicines properly.
   - checks allergies before dispensing
   - distinguishes between toxins and toxoids, and among antibiotics
   - does not use where patient risks are involved or where contraindicated
   - does not use drugs which are now considered dangerous because of side effects
   - supervises administration of medicines

4. - Makes sure equipment stays in working order.
   - diagnostic equipment
   - ambulance
   - immunization

5. - Makes sure that supplies are kept on hand.
   - medicines (standard and emergency)
   - medical supplies
   - surgical supplies
   - diagnostic supplies

6. - Knows about and makes use of community facilities when needed (transportation, private hospital, clinics, pharmacies).
7. - Does not hospitalize those who can be treated in OPD.
8. - Does not use outmoded or dangerous equipment.
9. - Maintains orderly, accessible records file (patient and HC).
10. - Keeps beds open, if possible-- for emergencies.
11. - Has private room for consultations with patients.

E. Clinical Evaluation, Treatment, and Disposition
(Patient Management)

1. - Follows good procedure in admitting patients to the Health Center hospital and E.R., or in handling patients in Outpatient Department.
   (a) gets all needed specific data on presenting complaint and initial condition from patient or informant
   (b) identifies the clinical problem quickly (clinical work-up)
   (c) decides (appropriately) to admit and diagnose rather than refer
   (d) determines what current medications patient may be on
   (e) identifies patient risks, especially crucial ones
   (f) studies any records or notes, if patient has been referred to local hospital
   (g) examines immediately in emergency and acute cases
   (h) treats immediately in emergency and acute cases
   (i) records intake data, initial decisions, time, risks.

2. - Institutes adequate plan of care
   (a) history, personal and family, beyond just the chief complaint
   (b) PE, general and special
   (c) laboratory, routine and special
   (d) studies records of previous hospitalization or H.C. treatment
   (e) consults as necessary
   (f) diagnoses in view of the above (clarifies the problem)
   (g) keeps complete records of all the above
   (h) is aware of risks in proposed treatment
   (i) refers as necessary (See B 3)

3. - Provides proper hospital treatment and follow-up.
   (a) diet
   (b) medication
   (c) recognizes complications and makes the necessary decisions
   (d) continued diagnosis, if indicated (re-evaluation of symptoms)
   (e) checks non-responding patients
   (f) monitors vital signs
   (g) insures that staff know how to dispense medicines, use equipment
   (h) insures proper supervision of patient's care
   (i) protects patient from potential avoidable complications
   (j) early mobilization

4. - Provides proper OPD treatment and follow-up
   - checks agreement of diagnosis, lab work, and Rx
   - administers appropriate medication
   - recognizes potential complications
   - does minor surgery under sanitary conditions
   - follows-up depending upon Rx, severity, and nature of illness
   - insures that staff know how to dispense medicine, use equipment

5. - Disposes of the case on good grounds and with good advice
   (a) refers to base hospital (See B 3) or other agency (local)
   (b) makes appointment to a clinic
   (c) discharges after examination and study of records
   (d) prescribes medicines, diet, home care, exercise, hygiene
   (e) records disposition and reasons
   (f) makes appointment for checkup or repeated treatment
   (g) tells patient what side-effects to expect, how to avoid relapses, whether or not to return to work, etc.
   (h) advises patient on rehabilitation

F. Approach and Attitudes Toward Patients

1. - Maintains good personal relationships with patients (develops rapport)
   - knows names, addresses, family conditions, jobs, problems
   - talks in understandable language
   - visits patients at home (occasionally)
   - gives impression of being a "family physician"

2. (a) Takes family's economic situation into account in relation to the costs of
   - hospitalization
   - drugs
   - laboratory procedures

   (b) Is aware of benefits available to patients from various health plans and other sources:
   - medicare
   - medicaid
   - social security
   - vocational rehabilitation
   - V. A.
   - private insurance

   (c) Educates individuals and families re these benefits.

3. - Visits patients, as feasible, as expression of concern
   - at base-hospital after referral
   - at Health Center or home after treatment

G. Productivity

1. - Has minimal absenteeism from assignment

2. - Maintains "reasonable" patient load

3. - Keeps adequate and clear records for all patients

4. - Meets all his scheduled clinic assignments

H. Participation and Communication in the Local Community

1. - Exerts leadership at the local level:
   - campaigns for preventive clinics (See A 4)
   - takes initiative re local problems (See A 2)
   - works effectively with community groups in discussing and solving local health problems
   - involves non-medical persons in discussing and solving problems
   - urges populace to take advantage of clinics and education

2. - Gives lectures, demonstrations to community groups

3. - Belongs to local medical societies

4. - Refers patients to other institutions in the community (family counseling, welfare, schools, clinic, psychiatrist, the church):
   - refers to the correct agency
   - gives adequate reasons for referral
   - uses proper channels
   - keeps records of such referrals

5. - Maintains open communications channels between community and H.C.

6. - Participates in all local groups that work for early detection of the major non-communicable diseases and alcoholism

I. Legislation and Department Requirements

1. - Complies with existing laws and regulations:
   (a) reports communicable diseases and cancer
   (b) checks on licensing of medical and paramedical personnel
   (c) delegates responsibility to those legally qualified
   (d) reports deaths and births
   (e) maintains all local records and forms
   (f) prescribes and dispenses drugs and narcotics within the law
   (g) issues health, birth, marriage certificates after appropriate PE
   (h) practices abortion within the law
   (i) uses appropriate channels for referrals

J. Physician Characteristics

1. - Exerts leadership at local level (see H.1)

2. - Is satisfied in his work
   - professional
   - financial
   - peer and colleague relationships

3. - Is professionally honest
   - recognizes mistakes and limitations
   - is ethical in all medical matters
   - deals honestly with complaints
   - deals fairly with colleagues

4. (a) Keeps informed of the latest developments in the profession
   - attends professional meetings
   - keeps up with the literature
   - reviews department and other statistics and reports

   (b) Makes self available for self-improvement in knowledge and skills

5. - Relates well to the community as a whole:
   - maintains communication between community and Health Center
   - cooperates with civic authorities
   - is seen as a positive force for better health conditions
   - works with local private physicians
   - knows the community, its problems, and its resources

K. Patient Satisfaction

1. - Feels that hospital care is adequate:
   - personnel
   - facilities
   - attention to needs

2. - Feels that costs of medical care at Health Center are reasonable

3. - Feels satisfied that he has received good medical attention from the physician
   - thorough diagnosis
   - physical examination (beyond locus of original complaint)
   - laboratory work
   - thorough treatment
   - assistance in preventive practices
   - follow-up
   - referral to other agencies

4. - Is satisfied with degree of communication with the physician
   - has chance to explain his complaints
   - is encouraged to reveal all pertinent information
   - is told the diagnosis
   - is told why lab work is ordered
   - is told reasons for and cautions with various therapies
   - is told about prognosis and rehabilitation

Section III

Environmental factors affecting quality of judgment and performance: the working conditions and constraints constituting the physicians' milieu (Appears to assume that the physician is a high-quality practitioner, and these conditions either enhance or hinder his performance).

1. - Policy and priorities established by Department of Health and/or local H.C. director (relating to communications, admissions, personnel, referrals, treatment, finances, reports, clinics, morale, education, efficiency, regulations, etc.)

2. - Ratios of MD's, nurses, paramedics to local population (both in H.C. and in local private situations) and to size of H.C. hospital

3. - Availability (permanent or on call or scheduled) of trained ancillary medical people:
   - consultants and specialists
   - sanitarian
   - preventive clinic directors
   - medical records clerk or librarian
   - health educator
   - pharmacist or aide
   - dentist
   - ambulance driver
   - social worker
   - medical technicians
   - school nurse

4. - Patient load

5. - Referral feedback from base hospital or private agencies

6. - Adequate, sanitary, and well-maintained working space (consultation, nursery, waiting, examination, operation, storage, lab)

7. - Modern diagnostic and laboratory equipment and facilities

8. - Supplies and speed with which they can be replenished

9. - Transportation and communication available

10. - Incidence of disease in locality, particularly serious diseases or those highly contagious

11. - Hospital facility is adequate to needs and size of local population

12. - Number and type of responsibilities and assignments given to the individual physician

13. - Speed with which service orders (lab, records, pharmacy) are executed in H.C.

14. - Geographical location of locality, and of the H.C., and of the base hospital

Section IV

Record Forms for Evaluation of Physician Handling of Presenting Complaints

General Outline for Presenting Complaints

	Essential	Not Essential	Done	Not Done
1. Admitting Complaint				
2. Admitting Complaint, Explored				
3. History, Personal				
4. History, Family				
5. Physical Exam, General				
6. Physical Exam, Special				
7. Laboratory Procedures, Routine				
8. Laboratory Procedures, Special				
9. Consultation				
10. Diagnosis, Initial				
11. Diagnosis, Corrected				
12. Diagnosis, Final				
13. Transfer.				
14. Treatment				
15. Follow Up				
16. Protection of Patient				
17. Disposition				

Preliminary Form

CRITERIA FOR EVALUATION OF QUALITY OF MEDICAL CARE OF THE PRIMARY PHYSICIAN IN...

A. Pregnancy, Neonatal Problems

Is medical record available? ..... Yes__ No__

Maternal Factors Recorded (History)

Yes	No	
____	____	1. Age and parity_____
____	____	2. Duration of pregnancy_____
____	____	3. Outcome of previous pregnancies as to abortion, intrauterine, death, weight, and congenital anomalies
____	____	4. Maternal diseases (diabetes, anemia, malnutrition) (previous blood transfusion)
		5. Pregnancy period
____	____	Prenatal care_____(Place)
____	____	Diseases during pregnancy_____
____	____	Drugs used_____ (Date) (Results)
____	____	Serology_____ (Date) (Results)
____	____	Type and RH_____
		6. Duration of labor
____	____	1st stage_____hours
____	____	2nd stage_____hours
____	____	7. Rupture of membranes_____ (in relation to onset of labor)
____	____	8. Presentation_____
____	____	9. Method of delivery_____
____	____	10. Date and hour of birth_____

A. Pregnancy and Neonatal-2

Physical findings recorded

Yes	No	
		Apgar score 1 and 5 minutes
		Weight
		Sex

Complications recorded re high risk babies

Yes	No	Date & Hour Identified	Date Referred	Decision & Action Taken: Correct	Decision & Action Taken: Incorrect	
						subnormal weight (less than 5 1/2 lbs.)
						Macrosomia (7 to 9½ lbs.)
						Jaundice 1st 24 hours
						Respiratory difficulty and/or cyanosis
						Convulsions
						Infections
						Persistent refusal of feeding and vomiting
						Abdominal distention
						Hypo-hyperthermia (persistent)
						Bleeding
						Congenital defects
						Cardiovascular
						Hydrocephalus
						Spina Bifida
						Other (specify)

Yes	No	CARE OF THE NORMAL NEWBORN BABY
		Feeding adequate (for breast feeding and/or formula)
		Weight recording is adequate
		Hygienic techniques adequate

		DISPOSITIONS ON DISCHARGE
		Adequate instructions for feeding given
		Appointment to the Well Baby clinic given
		Adequate instructions for hygienic measures given

B. DEHYDRATION AND HYDRATING PROCEDURE

Yes No Age recorded

Yes No Initial weight

Yes No Follow up weight (and how frequently)

Recorded	Correct	Incorrect	
_____	_____	_____	1. degree of dehydration
_____	_____	_____	2. etiologic factors detected
_____	_____	_____	3. total amount of fluid in 24 hours
_____	_____	_____	4. electrolyte concentration and content
_____	_____	_____	5. route and rate of administration
_____	_____	_____	6. responses to therapy
_____	_____	_____	7. final disposal

C. TRAUMA, SHOCK, BLEEDING

(1) Identification of the problem

A. History--from patient or informant

B. Immediate evaluation of physical injuries and severity in an orderly manner. (Checklist needed for type and site of injury, recognition, and disposition.) (Also indicate time elapsed since trauma occurred.)

1. Head and neck
2. Chest
3. Abdomen
4. Extremities

Time of injury_____
Time of arrival at H.C._____

TYPE AND SITE OF INJURY	Recognized	Admitted and Rx at HC	Referred to D H	Time Treatment Started
Head and Neck				
1. Scalp lacerations				
a. With bone involvement				
2. Major lacerations with eye and ear involvement				
3. Cerebral concussion with brief loss of consciousness				
a. No neuro findings				
b. Return of unconsciousness				
c. Focal neurological signs				
d. CSF leak (ear, nasal)				
4. Fractures				
a. Linear skull fractures--no neurological signs				
b. Maxillofacial without displacement				
c. With displacement				
5. Penetrating injuries of the neck				

C. Trauma, Shock, Bleeding-2

TYPE AND SITE OF INJURY	Recognized	Admitted and Rx at HC	Referred to D H	Time Treatment Started
Chest				
1. Contusion of the chest wall with simple rib fracture				
2. Multiple rib fractures (with flail chest)				
3. Pneumothrax				
4. Hemothorax				
5. Hemopericardium				
Abdomen				
1. Blunt trauma with ruptured viscus (stomach, intestine, bladder)				
2. Concealed hemorrhage				
3. Penetrating injuries				
Extremities				
1. Joint sprains				
2. Fractures				
a. Undisplaced (of pelvis and extremities)				
b. Closed, displaced				
c. Closed with potential neurological or valvular involvement				
d. Open				
3. Lacerations				
a. Simple				
b. With tendon, nerve, or vascular involvement				

C. Trauma, Shock, Bleeding-3

(2) Initiation of emergency management according to patient status, at health center level. Use chart below, and also indicate time.

TYPE OF THERAPY IN IMMEDIATE MANAGEMENT	Essential	Done	Correct	Incorrect
1. Initial evaluation of magnitude of injuries	___	___	___	___
2. Triage classification (minimal, immediate) etc.	___	___	___	___
3. Therapeutic approach	___	___	___	___
4. Establishment of airway	___	___	___	___
5. Establishment of adequate IV route	___	___	___	___
6. Type and rate of fluid administration	___	___	___	___
7. Attempt to stop external hemorrhage	___	___	___	___
8. Monitoring of Rx approach	___	___	___	___
9. Indicated laboratory tests	___	___	___	___
10. Antibacterial Rx and tetanus prophylaxis	___	___	___	___
11. Adequate wound cleaning and debridement	___	___	___	___
12. Choice of initial or delayed primary closure	___	___	___	___
13. Immobilization and bandaging of injuries	___	___	___	___
14. Type and timing of pain relief	___	___	___	___

D. ABDOMINAL PAIN

I. Identification of problem:

Oriented toward the recognition of an acute surgical abdomen, intestinal obstruction, GI bleeding or progressive intra-abdominal problem who might require surgical intervention within a short period of time. Differentiation of this patient from one that might require medical observation or admission to the Health Center.

A - History:

1. Pt's age
2. Onset and duration
3. Location and radiation
4. Character and intensity of pain
5. Previous history of similar symptoms and management
6. Current medications
7. Associated symptoms
   a) Nausea and vomiting
   b) Last B.M.
   c) Urinary complaints
   d) L.M.P. in the female
8. Previous abdominal operations?
9. History of hernias
10. Weight loss
11. Change of nutritional, bowel and bladder habits
12. Smoking and drinking habits

B - Physical Exam:

1. B.P., P., T and R
2. Jaundice
3. Palpable mass or organs
4. Abdominal tenderness, guarding, rigidity, rebound tenderness, abnormal peristaltic sounds, distension
5. Femoral pulses or inguinal masses
6. Rectal tenderness or palpable masses
7. Description of stools
8. State of hydration
9. Back and C.V.A. tenderness
10. Scars

II. Plan of care for the presenting problem. (E.g., determined that the care is not surgical but deserves hospitalization in the Health Center.)

A - Initial Management

1. NPO
2. IV fluids
3. Nasogastric suction, if persistent nausea and vomiting
4. Monitoring of vital signs
5. Considerations of relief of pain if no respiratory or circulatory embarrassment.
6. Antibacterials, if indicated

D. Abdominal Pain-2

B -Lab procedures

1. CBC
2. Urinalysis
3. Flat plate and upright of abdomen } (if facilities available)
4. Chest X-ray }

III. Follow Up

1. Vital signs, monitor
2. I and O evaluation of adequacy of hydration
3. Re-evaluation of symptoms
4. Removal of nasagastric suction when peristalsis present and disappearance of abdominal pain, nausea and vomiting
5. Starting and progressive increase in feedings
6. Recognition of complications

a) Persistent fever
b) Pain
c) Persistent nausea and vomiting
d) Development of rigid abdomen
e) Appearance of jaundice or newly palpable abdominal masses
f) Bleeding
g) Appearance of abdominal distention

IV. Criteria for Discharge

The recidivism or benignity of process will become self-evident within first 24-40 hours. Progressive development or relentlessness of symptoms make referral to base hospital mandatory.

E. RESPIRATORY COMPLAINTS

Points to Be Considered in Overall Criteria

1. Identification of problem:

A - Problems to be considered:

a) Identification of airway obstruction
b) Evidence of secretions
c) Oxigenation problem
d) Bronchial sepsis

B - Criteria for Admission to Health Centers:

This depends on the facilities of manpower and equipment after the identification of problems has been recorded and oriented.

C - Referral Note

2. Adequate plan of care

A - Problems

1. Recognition of airways obstruction
2. Secretion
3. Oxigenation
4. Sepsis

B - History

1. Present and past history
2. Establish criteria for acuteness or chronicity
3. Degree of incapacitation

Chronic
Acute

C - Physical

1. Expression of evidence

a) Toxicity
b) Physical

2. Evidence of obstruction

a) Evidence of parenchymal involvement
b) Evidence of arterial desaturation

D - Initial Plan

1. Basic laboratory requirements

WBC
Hematocrit
Culture and stains.

E. Respiratory Complaint-2

2. X-ray, chest

(depending on facilities available)

3. Hydration as indicated

4. Antibiotic as indicated

-Type
-Criteria for initiating treatment
-Record time of usage and discontinuation

3. Adequate treatment

1. Improvements of clinical findings
2. Clearing of physical findings
3. Clearing of Rx findings
4. Laboratory evidence of improvement

4. Criteria for consultation

If improvement is not evident or if any of the presenting signs are worsened.

5. Criteria for discharge

6. Final disposition

Establishing the presence of underlying chronic disorders that might have contributed to the present illness

Appointments for follow-up clinical

Follow-up of historical, physical, X-ray and laboratory findings

The following checklist of indicators for the evaluation of respiratory disorders at the level of primary physician was also prepared.

E. Respiratory Complaint - 3

HISTORY RECORDED

Yes	No	
		Patient's age
		Time and age of onset
		Character of onset
		History of chronic cough if present
		Previous episodes or first episode
		Previous hospital care
		Treatment used in the past or at present
		Radiographic studies done in the past
		History of contact with ill persons
		History of special procedures and treatment or surgery done

PHYSICAL EXAMINATION FINDINGS RECORDED

Yes	No	
		VITAL SIGNS - Pulse for tachycardia
		-BP
		-Respirations for tachypnea
		-Temperature
		DEFORMITIES OF CHEST - Bones and spine retractions
		PRESENCE OF STRIDOR-
		CYANOSIS
		HOARSENESS
		AUSCULTATION
		PERCUSSION
		QUALITY AND QUANTITY OF SECRETIONS WHERE PRESENT

COMPLICATIONS

RECORDED		IDENTIFIED	REFERRED	ACTION TAKEN CORRECT OR INCORRECT	
Yes	No				
					Uncontrolled fever
					Hemolysis
					Severe dyspnea and orthopnea
					Pneumothorax
					Lung Abscess
					Congestive heart failure
					Shock
					Dehydration
					Allergic reaction
					Confusion and deepening cyanosis

E. Respiratory Complaint - 4

PLAN OF CARE RECORDED

Yes	No	
___	___	1. Minimal laboratory
___	___	A. WBC, Hematocrit
___	___	B. Examination of sputum
___	___	C. Smear and gram stain of sputum
___	___	D. Culture
___	___	2. X-ray chest
___	___	3. Suction as indicated
___	___	4. Hydration as indicated
		Type
		Route
___	___	5. Antibiotics as indicated
		-Type given
		-Given as therapeutical
		-Trial or after a stain was performed
		-Length of administration
		-Time change
		-Why?
___	___	6. Specific therapeutical
		-Measures
		-Bronchodilators
		-Steroid (criteria for giving it)
___	___	7. Proper use of consultation
		-When needed
___	___	8. Referral when indicated

DISPOSITION ON DISCHARGE RECORDED

Yes	No	
___	___	-Type of medication upon discharge
___	___	-Diet given on discharge
___	___	-Appointment given for H.C. clinic
___	___	-Disposition considered adequate or inadequate for condition

F: Unconscious Patient, and Convulsions

UNCONSCIOUS PATIENT

Hospitalized	Yes	No
At local Medical Center	( )	( )
Referred to UDH	( )	( )
Referred to Private Hospital	( )	( )

If Hospitalized at Local Health Center

1. Associated with trauma by history physical and/or work up	( )	( )
2. Associated with bleeding and/or shock	( )	( )
3. Serious respiratory obstruction	( )	( )
4. Respiratory paralysis	( )	( )
5. Urinary tract obstruction	( )	( )
6. Evidence of meningeal irritation	( )	( )
7. Associated with serious systems complications of any sort	( )	( )
8. Evidence of focal neurological findings unrelated to stroke	( )	( )
9. The patient recovered consciousness in 24 hours after admission	( )	( )
10. The patient has transferred to UDH within 24 hours	( )	( )

Criteria for adequate initial evaluation:
History

History of associated trauma	( )	( )
History of drug ingestion	( )	( )
History of exposure to noxious agents	( )	( )
Previous history of unconsciousness	( )	( )
Length of unconsciousness recorded	( )	( )
Family history of epilepsy recorded	( )	( )

Criteria for PE

1. Vital functions recorded	( )	( )
2. Inspection and palpation of the body	( )	( )
3. Size and reactivity of pupils	( )	( )
4. Eyegrounds examination	( )	( )
5. Signs of meningeal irritation	( )	( )
6. Focal paralysis	( )	( )
7. State of hydration	( )	( )

Criteria for Lab. and X-ray work

CBC done	( )	( )
Urinalysis done	( )	( )
X-rays of chest	( )	( )
X-rays of skull	( )	( )

F. Unconscious and Convulsions - 2

Criteria for adequate initial plan of care	Yes	No
1. Orders for clearing airway	( )	( )
2. Vital signs monitoring	( )	( )
3. Feeding orders	( )	( )
4. Intake and output	( )	( )
5. Consultations	( )	( )
6. Excretory function	( )	( )

Criteria for adequate follow-up care:

1. Vital signs monitoring	( )	( )
2. Status of cardiopulmonary state	( )	( )
3. Status of excretions	( )	( )
4. Early mobilization	( )	( )
5. Adequate care of complications	( )	( )
6. Status of hydration	( )	( )

Criteria for discharge and disposition

1. Adequate transfer note to UDH	( )	( )
2. Patient feeling conscious and ambulatory	( )	( )
3. Febrile	( )	( )
4. Feeding problems	( )	( )
5. No systemic complications	( )	( )

CONVULSIONS

Criteria for admissions:

Acute Convulsions

1. First convulsion not associated with increased intracranial pressure, nuchal rigidity or subarachnoid hemorrhage	( )	( )
2. First convulsion not associated to trauma prolonged unconsciousness or focal findings	( )	( )
3. First convulsion not associated with serious organ or systemic disease	( )	( )

Chronic Convulsions

1. Not responding repeated seizures	( )	( )
2. Already work up at the Regional Hospital	( )	( )
3. Anticonvulsants are available	( )	( )
4. Associated with status epilepticus	( )	( )
5. Related to head injuries	( )	( )

Criteria for adequate plan of care:

History:

History of trauma or drug ingestion	( )	( )
Focal onset	( )	( )
Generalized seizure	( )	( )

F. Unconscious and Convulsions - 3

	Yes	No
Associated with exanthema	( )	( )
Associated with severe headache or signs of increased intracranial pressure	( )	( )

Physical Examination:

1. Vital signs	( )	( )
2. Condition of hydration	( )	( )
3. Condition of skin	))	( )
4. Signs of meningeal irritation	( )	( )
5. Size and response of pupils	( )	( )
6. Focal paralysis	( )	( )
7. Eyegrounds examined	( )	( )
8. Focal paralysis	( )	( )

Adequate Care:

1. Orders for clearing airway	( )	( )
2. Vital signs monitoring	( )	( )
3. Protection against body injuries	( )	( )
4. O_2 therapy is indicated by cyanosis	( )	( )
5. Glucose IV	( )	( )
6. Mobilization early	( )	( )
7. Effective anticonvulsant drugs	( )	( )
8. Reports for abnormalities of level of consciousness	( )	( )

Criteria of Lab. is the same as for unconscious patient

COMPLICATIONS IDENTIFIED

	Date Recorded	Action Taken: Correct	Action Taken: Incorrect
1. Depressing of level of consciousness		( )	( )
2. Status epilepticus		( )	( )
3. Urinary obstruction		( )	( )
4. Respiratory distress		( )	( )
5. Respiratory obstruction		( )	( )
6. Dehydration		( )	( )
7. Pneumonia		( )	( )
8. Abdominal distension		( )	( )
9. Urinary tract infection		( )	( )
10. Status of the skin		( )	( )
11. Decubitus ulcers		( )	( )
12. Signs of phlebitis		( )	( )

F. Unconscious and Convulsions - 4

FOLLOW-UP CARE AND DISCHARGE (this application for both, the unconscious and the convulsing care)

Follow-up Care:	Yes	No
1. Monitoring of vital signs	( )	( )
2. Mobilization of the patient	( )	( )
3. Reported observations of level of consciousness	( )	( )
4. Laboratory and X-rays reported and reviewed	( )	( )
5. Level of hydration	( )	( )
6. Referred to medical center in time and adequate	( )	( )

Criteria for Discharge:		
1. No fever or systemic complication	( )	( )
2. No signs of meningeal irritation recorded	( )	( )
3. Feeling conscious and no mental disturbance	( )	( )
4. Anticonvulsant prescribed for follow up in the case of convulsions	( )	( )

only good evaluator is a physician who studies the record--and the criteria of quality practice in effect are in his head. The majority view was that it is possible to determine adequate criteria in advance and that "evaluators" may be merely data-gatherers who record according to predetermined checklists, regardless of the mode employed. The record form developed for "pregnancy and neonatal problems" provides an example. On the one hand, much of what is to be checked is a matter of records and an indication of their completeness. But in the case of complications, there is the added need for a judgement to be rendered concerning the correctness of either (a) the local action taken or (b) the referral made. (See page 21).

Another observation concerns the terminology used. The words "appropriate," "necessary," and "feasible" appear repeatedly in the criteria, and of course are qualifiers which have not yet been defined into precise performance terms. In many instances the intended "valued performance" would depend upon circumstances, and it may be that in any case a certain degree of subjective assessment of quality would have to obtain. (See the point of view referred to in the paragraph just above.)

In other criteria, the verb "to be aware of" is applied. To be knowledgeable and aware is necessary to proper action, but is not usually sufficient in itself to insure or verify that needed action is taken. In a few instances, the "being aware of" is the apparent intent of the criterion, and is sufficient for what the Conference intended.

A related concern is that even where more action-oriented verbs are employed, the level of acceptable performance is not--indeed, in some cases may not be--indicated. In the criterion, "Conducts regular immunization programs," there is not yet a standard for regularity. Similarly, as relates to physician visitation, it is not clear whether one visit to a patient--at home, in hospital, at work--would satisfy this criterion, or whether somehow a series of visits is intended. On the other hand, in the dimension concerning productivity, one criterion is stated as, "Meets all scheduled clinic assignments" and that is an absolute and presumably measurable requirement, easy to determine and to record.

One observation made by Conference participants, and reflected in the

criterion outcomes, was that in some instances it would be necessary to have less than absolute expectations. Where the physician is asked to "insure that all who should attend preventive clinics in fact do so," for example, the requirement is so stringent as to possibly defy adherence much less measurement. In cases where the "demand " is meant to be so precise, though, some criterion behaviors (which reveal concern, attitude, or action) would need to be listed--even if only one of them was needed to satisfy the requirement.

SUBSEQUENT REVIEW and REVISION

The compilation just discussed was submitted to the Core Committee and Curso staff for review and revision, which occurred in several stages.

The first step was to reorganize the outline so that two categories were removed from "Dimensions of Care" and placed under "Physician Characteristics." These were the sections concerned with Participation in the Community, and Productivity. It was difficult to determine just how to classify these two dimensions, since both included traits directly related to actual care (e.g., keeps adequate, clear records--and refers patients to other agencies...). However, most behaviors outlined here were more related to the physician's characteristics and sense of responsibility.

At the same time, minor changes were made in headings, a few elements were placed elsewhere in the taxonomy, and two specific indicators were removed from the outline.

In the second stage, various members of the Core and Curso groups set up criteria by which to review the compilation systematically. They determined to:

- -remove all possible duplication
- -reorganize the topical alignments
- -retain those criteria which represented minimal rather than ideal expectations, to match realistic situations
- -remove items relating exclusively to the function of the LHC director
- -restructure the taxonomy so that it would describe "the general physician anywhere", and not just the LHC physician

Working under these requirements, members of the Core Committee met on several occasions and concentrated on the content and topics which they could pull from the earlier compilation; there was little emphasis at that time on refinement of the performance descriptors or possible levels of performance. To be sure, the Committee considered the specificity of the statements along with measurement implications, but the main concern was appropriate topical coverage.

Four major areas were identified in this restructuring: Community Health Services, Personal Health Services, Personality (physician characteristics), and Situational Influences on Physician Performance. This resulted in the elimination of four dimensions which had emerged from the original conference, and a number of subgroupings of criteria.

The third step involved reconsideration of all the preceding review/revision work at a formal meeting which made use of input from other medical and measurement personnel. Two days were devoted to the detailed study of the changes already made; to debate, rewording, new reorganization, and measurement implications; and to a determination of the priorities. In particular, the original overall compilation (see pages 11-19) was analyzed again and structured into final form in terms of Core Committee consensus.

The final outcome is presented on the following five pages, and represents the formal report adopted by the groups involved. To be sure, there were some areas left incomplete or about which there was some uncertainty; and it was recognized that work was still needed on specificity, coverage, levels of expected competency, and the like. This final product automatically includes the record-forms earlier developed for several presenting complaints--although that section is not repeated here since there was no opportunity for the ad hoc hospital group to revise this material. The original--and thus final--record forms will be found on pages 20-36.

CRITERIA FOR EVALUATING QUALITY OF MEDICAL CARE

I. COMMUNITY HEALTH SERVICES

A. Community and Family Protection

1. Keeps informed of environmental and social factors that affect community health, and of action that could be taken.

   a. communicable disease outbreak (e.g., hepatitis, influenza)
      - traces source
      - immunizes
      - keeps needed medicines on hand
      - follows patients and contacts
   b. nutrition needs
   c. overpopulation problems
      - counsels families
      - conducts family planning program
      - refers to existing agencies
   d. social pathology problems
      - alcoholism
      - drug addiction
      - divorce
      - adoption
      - battered child
      - children's neglect
   e. sanitary facilities and conditions
   f. air and water pollution
   g. major non-communicable diseases

2. Takes measures to correct these factors where feasible:
   a. communicable disease outbreak (see criteria above)
   b. nutrition needs
   c. overpopulation problems (see criteria above)

3. Conducts regular immunization programs for smallpox, DTP, polio and measles

4. Participates in general educational programs and efforts for individuals, for community, and for other health care personnel (before and after problems erupt), concerning:
   - communicable diseases
   - sanitation and pollution
   - major non-communicable diseases
   - family planning
   - nutrition

5. Participates in programs aimed at early detection of heart disease, cancer, TB, glaucoma, VD, diabetes
   a. actively participates in clinics
   b. actively participates in educational efforts

I. COMMUNITY HEALTH SERVICES continued

B. Legislation, and Requirements of the Department of Health

1. Complies with existing laws and regulations

a. adequately reports deaths and births
b. prescribes and dispenses drugs and narcotics within the law
c. reports on TB, syphilis, hepatitis, gonorrhea, cancer
d. reports on communicable diseases

C. Participation and Communication within the Total Health System

1. Knows proper channels for referrals, whether in private "system" or Department of Health system

2. Knows how referrals are handled at hospitals and other agencies

3. Makes appropriate use of referral systems

a. refers at local level where needed

- from E.R. to OPD
- to local private hospital
- to appropriate paramedicals

b. refers to base (regional) hospital from E.R. or OPD

- refers directly by name
- prepares referral himself (not left to a paramedical)

c. prepares referrals which:

- are legible
- contain history and physical findings
- include reasons for referral
- include his diagnostic impressions
- show that he attempted to diagnose
- include any therapy already given

d. takes patient risks into account

e. asks for specific feedback from hospital or other agency

- arrival of patient
- medical report
- seen by right specialist

f. makes only necessary referrals

g. refers to appropriate specialist or office or institution

II. PERSONAL HEALTH SERVICES IN HOSPITAL AND OPD

A. Maintains adequate clinical records

1. relates history and PE to chief complaint
2. diagnosis, lab results, and therapy agree in terms of chemical data
3. disposition is made clear
4. referral notes are appropriate, complete
5. follow-ups are done (depending on severity, therapy, diagnosed illness)

B. Keeps clinical records available, organized, legible, complete

C. Initial work-up

1. age
2. gets all needed specific data on presenting complaint
3. duration of illness
4. associated signs and symptoms in adequate sequence
5. determines previous and current treatment (e.g., medication)
6. other pertinent history
7. records PE including pertinent positive and negative findings
8. identifies the problem(s)

D. Plan of care

1. initial decisions recorded
2. treats immediately in emergency and acute cases
3. orders relevant laboratory work and procedures
4. consults as necessary
5. provides proper treatment and follow-up

   a. diet
   b. medication
   c. recognizes and prevents potential medical complications and makes the necessary decisions (e.g., early mobilization)
   d. continued diagnosis, if indicated (re-evaluation of symptoms)
   e. insures proper supervision of patient's care (e.g., minor surgery under aseptic technique)
   f. protects patient from potential security hazards
   g. follow-up, depending upon treatment, severity, nature of problem

E. Disposition of case

1. discharge orders recorded, with statement as to medicines, diet, home care, exercise, hygienic measures
2. orders appointment for follow-up clinic
3. plans for rehabilitation and records it
4. advises patient regarding...

   a. nature and duration of medication and treatment
   b. nature of illness
   c. side-effects of treatments
   d. how to avoid relapse
   e. types of activity permissible
   f. methods of self-care

III. THE PHYSICIAN AS A PERSON: PROFESSIONAL ATTITUDES & CHARACTERISTICS

A. Physician characteristics

1. Derives satisfaction from his work
   a. professional
   b. financial
   c. peer and colleague relationships
2. Keeps informed of latest developments in the profession
   a. attends professional meetings (enumerate)
   b. keeps up with the literature (subscriptions, etc.)
   c. reviews Department and other statistics and reports
   d. avails self of formal instructional opportunities for self-improvement in knowledge and skills
3. Relates well to the community as a whole
   a. maintains communication between community and private practice and/or Health Center
   b. cooperates with civic authorities
   c. takes initiative in working for improved health conditions
   d. works with all local physicians, in private or public practice
   e. knows the community, its problems, and its resources.

B. Participation and communication in the local community

1. Exerts leadership at the local level
2. Gives lectures and demonstrations to community groups
3. Belongs to local medical societies

C. Patient satisfaction

1. Feels satisfied that he has received good medical attention from the physician
   a. physical examination (beyond locus of original complaint)
   b. treatment
   c. assistance in preventive practices
   d. follow-up (including hospital)
   e. referral to other agencies
2. Is satisfied with degree of communication with the physician
   a. has chance to explain his complaints
   b. is encouraged to reveal all pertinent information
   c. is told the diagnosis
   d. is told why lab work is ordered
   e. is told reasons for and cautions with various therapies
   f. is told about prognosis and rehabilitation
3. Is satisfied that there is minimal waiting time and delay

IV. SITUATIONAL INFLUENCES ON PHYSICIAN PERFORMANCE

A. Policy and priorities and assignments established by Department of Health and/or local H.C. director (relating to communications, admissions, personnel, referrals, treatment, finances, reports, clinics, morale, education, efficiency, regulations, organization of resources)

B. Ratios of MD's, nurses, paramedics to local population (both in H.C. and in local private situations) and to size of H.C. hospital

C. Availability (permanent or on call or scheduled) of trained ancillary medical people:

1. consultants and specialists
2. sanitarian
3. public health unit director
4. medical records clerk or librarian
5. health educator
6. pharmacist or aide
7. dentist
8. ambulance driver
9. social worker
10. medical technicians
11. school nurse

D. Safe, sanitary, available, and well-maintained resources

1. Working space (including consultation, nursery, waiting, operation, examination, storage, laboratory)
2. Diagnostic and laboratory equipment (X-ray, EKG, suction, oxygen)
3. Medical, surgical, and other supplies
4. Transportation for patients (emergency, referrals, and supplies)
5. Hospital facilities and equipment, number of beds, etc.

E. Patient load (5-10 patients per hour)

F. Absenteeism (10% acceptable; above that, totally unacceptable)

G. Communication facilities, both local and regional

H. Weekly schedule of physician, related to his responsibilities

I. Efficient bed utilization depending on admitting complaint

1. efficiency in handling case
2. service orders
3. consultation
4. surgical facilities
5. equipment

J. Geographical location of LHC and travel time to base hospital

COMMENTARY

The final guidelines and criteria are revised considerably from the initial conference output. As noted, the Core Committee operated under a different set of assumptions when undertaking the terminal revision, particularly (a) moving from ideal expectations to more realistic ones and (b) changing emphasis from the Health Center physician to the general physician in any setting.

The revision resulted also in a reduced number of dimensions as well as the elimination of certain criteria deemed either unessential or unmeasurable. Moreover, the reorganization has subsumed certain dimensions into others, reflecting a point of view about practice and assessment as well as the difficulty the Core group encountered in dealing with dimensions as separate entities.

A great measure of the final product is still of course topical in nature, and not behavioral. It is anticipated that a good deal of further work would be needed--as other groups engaged in similar endeavors have experienced--to put the material into actual criterion form based on performance indicators. In a number of topics the criterion behaviors are not yet stated nor are levels of performance indicated; whereas other topics have been amplified by statements of actions to be taken. (See, for example, on page 40, the criterion indicators for "takes measures to correct communicable disease outbreak"--and page 41 where requirements are outlined for the proper preparation of referrals.)

Another observation is that--for the present anyway--even certain topics have been removed from the taxonomy which might later be reinstated. For example, the handling of preventive clinics in the LHC; the proper use of medicines; certain of the legislative or departmental requirements; the distinction between OPD and hospital practice. As any further work may be done with the criteria, it may be desirable to develop a section specifically for the "special" responsibilities of LHC physician. Actually, a number of such references exist in the final Committee document, but are not yet organized into a special section.

The present structure may certainly serve as a base for additional work in specifying performance standards and thereby coming closer to a statement of what is, and is not, feasibly measurable--and by what means. The specification of particular behavioral indicators (with attention to sequence, level of operation; different but equally satisfactory criteria, and organization into acceptable dimensions) is a difficult and continuing challenge. With respect to the several "presenting complaints," of course, a good deal has already been accomplished in this direction, where, for example, the search for complications is emphasized (through listing specific topics or behaviors), and the unique elements of diagnosis are outlined (as opposed to a "general work-up"). Different approaches are utilized for different complaints, however, and further study might result in consensus on format, sequence, mode of recording, and most importantly, the areas of judgement variously included in the present outlines (essential, not essential; done correctly, done incorrectly).

POTENTIAL USES OF CRITERIA

Several values would appear to inhere in the products of this activity. Whether they are topical outlines, specific performance indicators, or dimensions of the provision of medical care, the outcomes are potentially useful in various ways. (Actually, the activity itself may have had positive repercussions, in that (a) a large group of medical personnel met and produced a common product, (b) a first step was taken in the difficult task of performance specification, (c) attention was paid to the measurement implications involved, and (d) a number of Puerto Rican medicos became better acquainted with the University's special Curso de Perfeccionamiento and its aims.)

If all the products are considered--from the initial compilation of the Conference work, to the final revised material, to the disease-oriented performance requirements--then the following potential uses may be listed for the topics and criteria:

1. They provide a framework for developing an assessment approach to the work of physicians--in general practice or that group specifically located in the local Health Centers.

2. There is potential here--through the actual products as well as the process which led to them--for assessing the quality of care provided by other groups of physicians, as well as that provided by the system(s) of which they may be a part.

3. They may aid in emphasizing, in regular and in continuing medical education programs, the health-consciousness and patient-consciousness which are increasingly important at this time.

4. There is possible utility in the development of various course guides and outlines, and they may aid in determining priorities in continuing education programs.

5. For the Department of Health, there is a potential use in developing definitive job descriptions for those assigned in LHC's or other facilities.

6. The Department might also see a possibility of assigning physicians in terms of the dimensions of care they excel at; this of course is a long-range potential, but even at this time, selective assignment according to preferences or indicated skills might be considered.

7. Other potential applications in the Department are their use in various training programs, and in the standardization of record-keeping procedures or referrals.

8. The topics and criteria may be useful, at a later time, in any longitudinal study of physician training and performance undertaken by any group on the Island.

9. The products of course might be valuable to individual physicians to use for even a beginning at self-assessment in general practice.

10. The Medical School, in any work in new curricula, might match the topics and criteria against the objectives and content of the regular program--whether for general preparation or specialization. This might highlight any needed revisions in the medical curriculum, or possibly in priorities or sequence.

11. The continuing Curso de Perfeccionamiento (now known as the Curso de Actualización Médica) may find clues for restructuring the course or its emphases, or in providing particular training in community-health areas.

APPENDIX A

Special Committee for Development of Criteria
of Competence in Medical Practice

Subcommittees

A. Hospital Medical Practice

* 1. Carlos Girod, M.D. (Chairman)
* 2. Mr. Práxedes Norat
* 3. Margarita Cáceres Costas, M.D.
4. Mario García Palmieri, M.D.
5. Luis Sánchez Longo, M.D.
6. Juan J. Hernández Cibes, M.D.
7. J. A. Alvarez de Choudens, M.D.
8. Nydia de Jesús, M.D.
9. Anibal Lugo, M.D.
10. ETS - Dr. Carl B. Lyle, M.D., Consultant
11. PROJECT STAFF - Dr. Francisco Veray

B. Ambulatory Medical Practice

* 1. Manuel Soto Viera, M.D. (Chairman)
* 2. José Ibañez Morales, M.D.
* 3. Luis S. Miranda, M.D., Chairman of the total Special Committee
4. Lillian Haddock, M.D.
5. Francisco Oliveras, M.D.
6. Marta I. Valcarcel, M.D.
7. Raúl Costas, M.D.
8. Ibrahim Perez, M.D.
9. ETS - William Kastrínos, Ph.D., and Ennio Belen-Trujillo
10. PROJECT STAFF - Egidio S. Colón-Rivera, M.D.

C. Community Medicine

* 1. Rafael Rivera Castaño, M.D. (Chairman)
* 2. Guillermo Arbona, M.D.
* 3. Jorge Fernández, D. D. S.
4. Herber Rosa Silva, M.D.
5. Antonio Ortiz, M.D.
6. Juan A. Roselló, M.D.
7. Ramón Santini, M.D.
8. José A. Rechany, M.D.
9. ETS - Roderick Ironside, Ph.D.
10. PROJECT STAFF - Ariel Díaz, M.D.

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* Indicates members of the continuing, or "core," committee.

THE CRITERION PROBLEM IN THE EVALUATION OF PHYSICIANS

J. A. Davis

The Medical School of the University of Puerto Rico has forty-eight physicians with foreign medical training or foreign licenses who are just now completing an ambitious six-month "curso de perfeccionamiento" or retraining program. It is expected that they will serve principally in Island health centers where the need for physicians is acute. Good pedagogy--and the sponsor (the National Center for Health Services Research and Development)--demand careful evaluation of this new and creative solution to a pressing manpower need, for this is but the first of a series of programs.

The doctors in the Curso have taken the licensing exams of the Board of Medical Examiners at least once, and all have failed to pass this minimum standard. With the course behind them, they will shortly retake the licensing exams, and certainly their performance now after retraining will provide some evaluative criteria as to the general effectiveness of the Curso.

Other evaluative possibilities were built into the program from the beginning. As many of you know--because you helped with the effort--twelve tests in as many basic science or clinical science areas were developed by select faculty of the Medical School, following careful definition and specification of what the critical knowledge and abilities in each of these areas should be. These tests were administered to the student physicians before the Curso began, and an analysis of incorrect answers was provided to the program planners and administrators. Now, with the first course ending, the student doctors will (this next Saturday) retake these tests, and we will then be able to observe for these physicians, separately and collectively, the changes that may have occurred, and also the areas where no change has taken place.

Although these two evaluative possibilities--performance on the licensing examinations and on the retest of the special UPR Medical Knowledge Tests--seem quite valuable, there are still some rather serious problems that we feel cannot (like El Pato) be ignored.

To cite an example: There is a carefully suppressed study at an elite engineering school in the northeastern United States that found a negative or inverse relationship between test-based grades in the program and later success on the job as measured by supervisors' ratings. Performing well in college, or on tests, may not be the same as performing well in the real life situation.

Another aspect of this limitation is that tests are infested with something we may call not too inaccurately "test-taking ability." A study by Dr. Edward Cureton of the University of Tennessee found that 90% of the reliable variance in tests of achievement (after specific training) could be explained by differences in scholastic aptitude unrelated to the training that had been given.

A more critical limitation of leaning too heavily on the evaluation procedures outlined thus far is their possible contribution to forces that prescribe "teaching to the test" rather than to the complex activities and responsibilities of the physician in practice--activities and responsibilities many of which are probably impossible to transfer to paper-and-pencil testing. This is the major flaw in one other program of retraining physicians in the States, where the goal is training in English language facility and in "test-taking."

For the purposes of the UPR program go beyond aiding some unfortunate people to attain a value credential. Principally, the goal is to improve the quality of medical care on the Island, by providing a new supply of capable physicians in areas of critical manpower shortage, at a reasonable cost, and in a short time.

This means that we are concerned not only with what the physician knows, and can report on tests, but also with what the physician does in his professional service. Our basic question becomes "What is a good physician?" and this we must answer before developing measuring techniques to study and attest varying degrees of goodness, and to provide feedback for improvement of the Curso.

I am generally distressed to find that if this basic question is posed (by myself to a physician of some well-earned reputability, or by those who have previously reported attempts to evaluate quality of medical practice) some common and simple problems emerge that assure the basic question will not be answered satisfactorily. One of these is the tendency to think of "goodness" as a unitary whole, when in fact there are many different dimensions of goodness. Our question becomes (in terms of the total activities of the physician in practice) "What are good qualities, or for that matter, what are good qualities in particular situations?" A physician may be good in one type of activity (e.g., diagnosis) and poor in another (e.g., patient care); or, a particular quality may be relevant in one situation and not in another. The task before this distinguished group is the specification of a variety of dimensions, that together bear on effective and efficient health care.

Another common difficulty, that I believe the literature review you have been provided will show, is that we tend to be vulnerable to taking those particular convictions of things we believe we do well personally (and that other physicians do not), and equating them to the most essential components of quality. As different individuals have attempted to specify or assess essential qualities, they have developed very different constellations of qualities (if indeed they do not flounder on the error of assuming unidimensionality!).

It therefore seems critical that in the task before us we welcome and relish differences among us in what begins to occur first in our individual thinking as important qualitative aspects. We are blessed here with many unique capabilities and talents; we are secure enough to express our convictions openly. But by the end of our three days, we need a varied schema for criterion specification, and a structure that the measurement technician may begin to help you transpose to reliable assessment procedures. In short: we should not, must not, refer this problem to the specialist--either medical or measurement specialist--but must assume collectively the responsibility, and trust that varied points of view and group commitment will produce a more satisfactory answer than any heretofore achieved.

There are several kinds of structures for qualitative dimensions that we may consider. One would be concerned with the content of practice. This might

have components of technical competence in given frequent situations, effectiveness of treatment, appropriateness of referral, and the like.

Another kind of structure would be that which focuses on the delivery of services. What are the numbers of patients treated, or what is the state of community health visibly related to the physician man-hours devoted to various activities? That is, "quality" may seem to demand looking into the eyegrounds of every presenting case, yet reduce the number of patients that can be seen in a given period of time; or too good physician-patient relationships may attract many patients with superficial complaints.

In our consideration of structure for our criteria, we will also want to try to specify those subtle aspects of personality or personal style that may be relevant to qualities of performance. These may involve such traits as thoroughness, sensitivity to the emotional state on the patient, personal stability, ethical makeup, and the like.

Related perhaps to matters of personal style are the more complex or integrative skills--the ability to define a proper practice in a given setting, for example, or to have a varied repertoire of responses and the capability to use the most appropriate in a particular situation.

We may frequently find it useful to consider the common errors or failures that, from our experience, we know are often made. The unused E K G apparatus rusting away, the one-time prescription of hormones, the high infant mortality from untreated jaundice, and the like, may suggest components and dimensions that are quite critical to assess.

A final consideration that I would like to place before you is that attention needs to be given not only to qualities of performance and to indices of productivity, but also to the consequences of particular behaviors by the physician. A physician who is active and diligent in informal community health roles may err in diagnoses or be able to see fewer patients, but may achieve popular and effective support for an augmented health center.

The "test" we must build this time is thus remarkably different from the UPR tests of medical knowledge and the licensing examinations. We are not so much concerned with an inventory of factual knowledge which the physician should have but may or may not apply, as we are with what he does and how he

does it--with what benefits and with what deficiencies as compared with alternative activities. We shall be concerned not so much with what answers should be given to what questions, as we are with what we can observe of the physician and of his patients, of his records, of the visible results of his practice.

What, then, are the many elements of quality of practice? What are the most effective solutions the individual physician can make to the health needs of the Island? What can he do toward the ultimate goal of increasing the probability that training and other professional activities will improve their varied effectiveness of physicians in service? It is not only a matter of life and death, but also a matter of achieving a maturity of the discipline of medical practice that few others have had the courage or the ability to carry very well. All our advisers tell us--as does the HEW financing of this conference--that you good people here just may be able to do it in fine style. If so, the ramifications will go far beyond the shores of the Island.

APPENDIX C

Adequate Utilization of Facilities and Resources

(Department of Health Guidelines Adopted by Subgroup A)

In the evaluation of performance of a physician practicing in a health center, the conditions under which he practices should be taken into consideration. Facilities, equipment, financial resources available and paramedical personnel all have a great influence on the quality of care he can render.

The following items on the utilization of Facilities and Resources can be used as a checklist (with yes or no answers) to help in the evaluation of the physician's performance.

A. Conditions of Physical Plant and Equipment

1. Modern health center, with up-to-date equipment; with adequate space for all services
2. Obsolete facility; lack of space, outmoded equipment with poor state of maintenance
3. Conditions of physical plant and surroundings are sanitary, safe and attractive

B. Manpower Resources (Medical and Paramedical Personnel)

1. Health center adequately staffed (2 employees per bed)
2. Numbers of professional and technical personnel for a 22-25 bed health center:
   (a) Physicians -- 4
   (b) Nurses -- 8
   (c) Medical technologist or Microscopist (Lab. helper) -- 1.
   (d) X-ray technician ---------- 1
   (e) Pharmacist or pharmacist's aide ---------- 1
   (f) Medical record clerk ---------- 1
   (g) Practical nurses ---------- 16
3. Personnel are well trained to do their jobs
4. Responsibilities, wherever justified, are delegated by highly trained personnel to those with less specialized training
5. Continuous in-service training available for the personnel
6. Incentives available on the basis of individual merits
7. Morale is high, as judged by low absenteeism and low turnover

C. Adequate Utilization of Facilities and Resources

1. Patients are hospitalized who can be treated as outpatients
2. Patients are hospitalized who should have been referred to Regional Hospital
3. Only those patients who can benefit by admission to health center are admitted

4. Patient's stay in health center is reasonable, according to his diagnosis, with an average of 3-4 days per patient
5. Occupancy rate of health center is reasonable, within the following limits:
   Health centers with fewer than 25 beds ---------- 50-60%
   Health centers between 26-50 beds ---------- 60-70%
   Health centers over 50 beds - over 70% occupancy
6. Admissions to health center are approximately 1200 per year (22 bed health center)

D. Financial Resources
1. Appropriation for operation of health center is distributed on a 12-month basis
2. Supplies are purchased through bidding
3. Selection of medical equipment is made in consultation with medical staff

E. Laboratory and X-ray Services
1. Modern equipment available for laboratory tests to be performed at health center
2. X-ray machine available, in good operating condition
3. Technicians available to operate equipment
4. Physicians' requests for laboratory tests and x-rays are followed promptly
5. Ratios of laboratory tests and x-rays taken on patients admitted are within acceptable ratios (to be established)

F. Pharmacy
1. Pharmacy well-stocked for the needs of in-patients and outpatients
2. Formulary adopted and in use by medical staff
3. A pharmacist in charge
4. A pharmacist's aide in charge
5. Drugs not indicated are not dispensed; e.g., novaldin, tetanus antitoxin, sodium amytal for seizures

Patients Records

1. Record room ample, well-located, accessible to medical staff
2. Records kept in an orderly manner
3. A trained person in charge of record room
4. Medical records kept up to date, completed, and according to P.A.S. standards

Operating Room

1. Well-equipped; used for minor surgery only in the 22 bed health center
2. Major surgery performed in health centers over 50 beds, where a properly trained physician or a surgeon is available.